



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ATTY.'S DOCKET: KAGADEI=1

In re Application of:) Art Unit: 2838
V. KAGADEI et al.)
Appln. No.: 10/086,621) Examiner:
Filed: March 4, 2002) Washington, D.C.
For: METHOD AND APPARATUS) June 18, 2002
FOR PRODUCING ATOMIC...)
)

INFORMATION DISCLOSURE STATEMENT [IDS]

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir :

This Information Disclosure Statement is submitted in accordance with 37 CFR §§1.97, 1.98, and it is requested that the information set forth in this statement and in the listed documents be considered during the pendency of the above-identified application, and any other application relying on the filing date of the above-identified application or cross-referencing it as a related application.

[X] 1. This IDS should be considered, in accordance with 37 CFR §1.97, as it is filed before the mailing date of a first office action on the merits.

[X] 2. In accordance with 37 CFR §1.98, this IDS includes a list (e.g., form PTO-1449) of all patents, publications, or other information submitted for consideration by the office, either incorporated into this IDS or as an attachment hereto. A copy of each document listed is attached.

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[X] 3. Documents AD, AQ, AX and AZ is not in the English language. In accordance with §1.98(c), Applicant(s) states:

[X] An English translation of each document AD, AQ, AX and AZ (or of the pertinent portions thereof), or a copy of each corresponding English-language patent or application, or English-language abstract (or claim) is enclosed.

[X] 4. No explanation of relevance is necessary for documents in the English language (see reply to Comments 67 and 68 in the preamble to the final rules; 1135 OG 13 at 20).

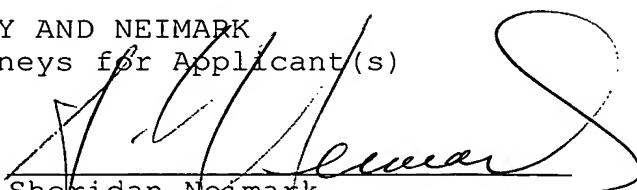
[] 5. Other information being provided for the examiner's consideration follows:

6. In accordance with 37 CFR §§1.97(g) and (h), the filing of this IDS should not be construed as a representation that a search has been made or that information cited is, or is considered to be, material to patentability as defined in §1.56 (b), or that any cited document listed or attached is (or constitutes) prior art. Unless otherwise indicated, the date of publication indicated for an item is taken from the face of the item and Applicant(s) reserves the right to prove that the date of publication is in fact different.

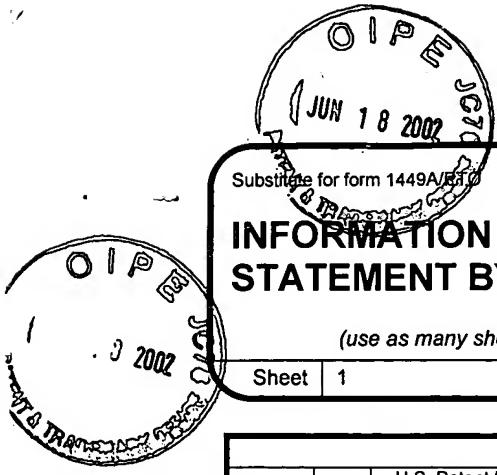
Respectfully submitted,

BROWDY AND NEIMARK
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1

of 3

Complete if Known	
Application Number	10/086,621
Filing Date	March 4, 2002
First Named Inventor	V. KAGADEI et al.
Group Art Unit	
Examiner Name	
Attorney Docket Number	KAGADEI-1

U.S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

Examiner Signature		Date Considered	
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* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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PTO/SB/57 (10/96)

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TRANSLATION**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet

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Examiner Name	

Attorney Docket Number

KAGADEI=1

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
	AC	LEONE, "Kinetic-Energy-Enhanced Neutral Etching", <u>Jpn. J. Appl. Phys.</u> , (1995), vol. 34, No. 4B, pages 20-73-2082	
	AD	ORLIKOVSKY, "Plasma Processes in Micro- and Nanoelectronics Part 1. Reactive Etching", <u>Microelectronics</u> , (1999), vol. 28, No. 5, Pages 344-362	X
	AE	ROUSSEAU et al., "Pulsed microwave discharge: a very efficient H atom source", <u>J. Phys. D: Phys.</u> , (1994), vol 27, pages 2439-2441	
	AF	POPOV et al., "Electron cyclotron resonance plasma stream source for plasma enhanced chemical vapor deposition", <u>J. Vac. Sci. Technol A</u> , (1989), vol. 7, No. 3, pages 914-917	
	AG	KROON, "Removal of Oxygen for the Si(100) Surface in a DC Hydrogen Plasma", <u>Jpn. J. Appl. Phys.</u> , (1997), vol. 36, pages 5068-5071	
	AH	BARDOS et al., "Linear arc discharge source for large area plasma processing", <u>Appl. Phys. Lett.</u> , (1997), vol. 70, No. 5, pages 577-579	
	AI	LIPPERT et al., "Soft Cleaning by <i>In Vacuo</i> Ultraviolet Radiation Combined with Molecular Hydrogen Gas before Molecular Beam Epitaxial Layer Growth", <u>J. Electrochem. Soc.</u> , (1995), vol. 142, No. 1, pages 191-195	
	AJ	SUGAYA et al., "Low-Temperature Cleaning of GaAs Substrate by Atomic Hydrogen Irradiation", <u>Japanese Journal of Applied Physics</u> , (1991), vol. 30, No. 3A, pages L402-L404	
	AK	WOLAN et al., "Chemical reactions induced by the room temperature intersection of hyperthermal atomic hydrogen with the native oxide layer on GaAs(001) surfaces studied by ion scattering spectroscopy and X-ray photoelectron spectroscopy", <u>J. Vac. Sci. Technol.</u> , (1997), vol 15, No. 5, pages 2502-2507	
	AL	KORZEC et al. "Characterization of a slot antenna microwave plasma source for hydrogen plasma cleaning", <u>J. Vac. Sci. Technol.</u> , (1995), vol. 13, No. 4, page 2074-2085	
	AM	EPI MBE Production Group. Aug./Sept., 1994, Applications Note, "On the Use of Atomic Hydrogen in MBE"	
	AN	Application Note, "Cracking Efficiency of the EPI Atomic Hydrogen Source", EPI, January, 1996, No. 1/96	

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Sheet

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OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	
	AO	LIVSHITS et al., "Dissociation of hydrogen molecules on Metal filaments in H ion sources", <u>Plasma Source Sci. Technol.</u> , (1994), pages 465-472	T ²
	AP	HOFLUND et al., "Performance Characteristics of a hyperthermal oxygen-atom generator", <u>Meas. Sci. Technol.</u> , (1994), vol 5, pages 201-204	
	AQ	MERFY et al., "Convenient source with a SHF-discharge in an elongated resonator for producing streams of hydrogen atoms" <u>Devices for Scientific Investigations</u> , (1979), vol. 5, Pages 121-122	X
	AR	GEDDES et al., "Dissociation fir hydrogen in High frequency discharges", <u>Plasma Source Sci. Technol.</u> , (1993), vol. 2, pages 93-99	
	AS	RF Gas Cracker/Reactives Atom Source - HD Series, The product of Oxford Applied Research	
	AT	GOODMAN et al., "Ar, N ₂ , and Cl ₂ electron cyclotron resonance plasma measured by time-of-flight analysis: Neutral kinetic energies and source gas cracking", <u>J. Vac. Sci. Technol.</u> , (1997), vol. 14, No. 4, pages 971-982	
	AU	SHERMAN, "In Situ removal of native oxide from silicon wafers", <u>J. Vac. Sci. Technol.</u> , vol. 8, No. 4, pages 656-657	
	AV	SAMANO et al., "An arc discharge hydrogen atom source", <u>Rev. Sci. Instrum.</u> , (1993), vol. 64, No. 10, pages 2746-2752	
	AW	GOURRIER et al., "Growth of Dielectric Films of Semiconductors and Metals Using a Multipole Plasma", <u>Thin Solid Films</u> , (1981), vol. 84, Pages 379-388	
	AY	Handbook of Ion Sources, Ed. by Bernard Wolf, CRC Press, (1995), Pages 32-34, 54-56, 61, 69-71, 222-223	
	AZ	GABOVICH et al., "Out of plasma with high concentration of concentration of charged particles into vacuum", <u>Journal of Technical Physics</u> , (1961), vol. 31, No. 9, Pages 1049-1055	X
	BA	ITO et al., "Purification of diamond films by applying current into the plasma stream in the arc discharge plasma jet chemical vapor deposition technique", <u>J. Appl. Phys.</u> , (1995), vol. 77, No. 12, Pages 6636-6640	

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